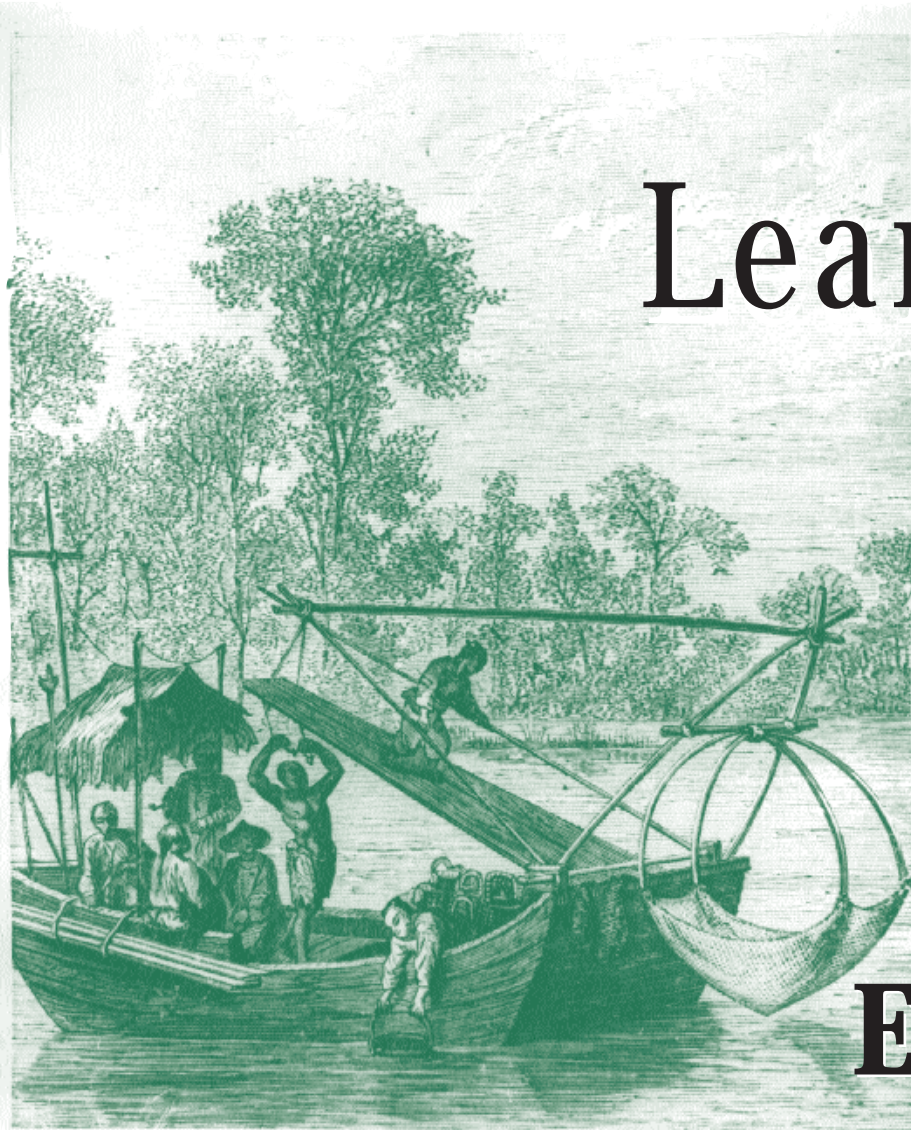


U N I T E D S T A T E S A G E N C Y F O R
I N T E R N A T I O N A L D E V E L O P M E N T



Learning

from

Experience

Progress in
Integrated Coastal Management



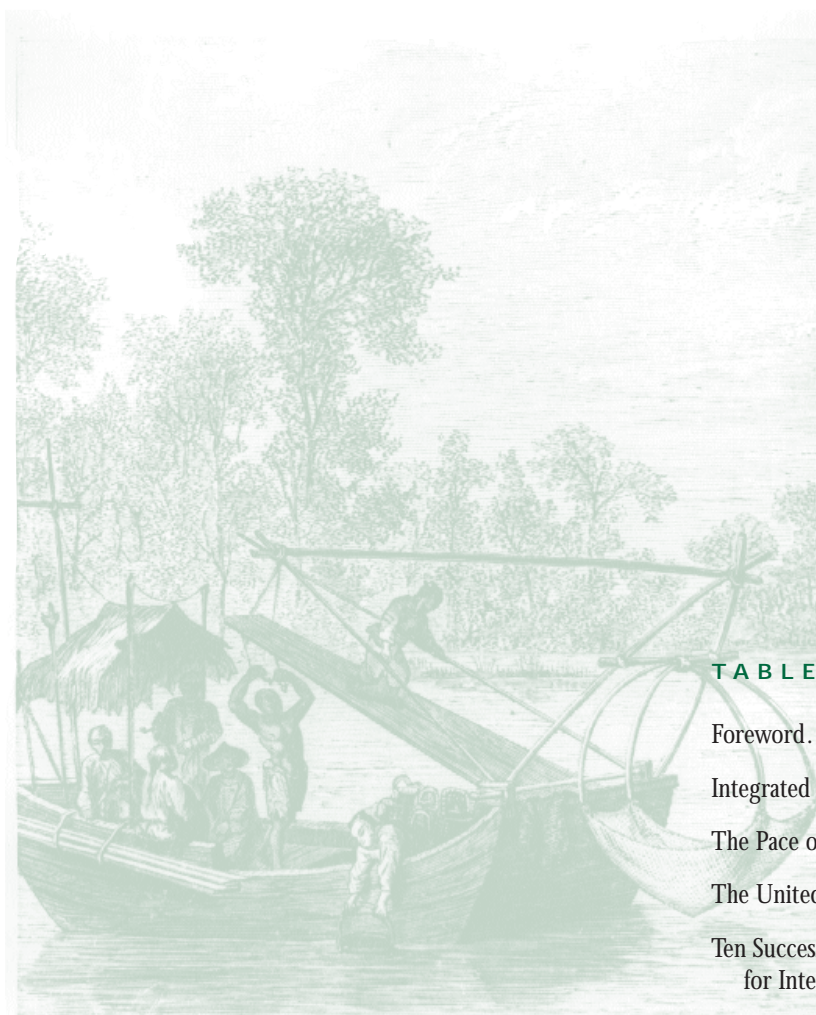


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r e w o r d

Coastal areas are vital to the lives and livelihoods of more than half of the world's people. Encompassing a diverse array of resources and environments, they contain tremendous biodiversity and provide the sheltered waters and high productivity that have long attracted human settlements. Yet human activities are currently degrading and destroying these precious areas and the services they provide. The ongoing transformation of the coastal zone, too often marked by overexploitation of coastal and marine resources, decline in the condition and health of coastal ecosystems, loss of marine biodiversity and, most importantly, increasing impoverishment of the people who depend on coastal resources, is an issue of international concern.

Chapter 17 of *Agenda 21* is devoted to the "Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources." To contribute to the review of this chapter at CSD IV, the U.S. Agency for International Development (USAID) carried out an examination of its integrated coastal resource management programs. The result of this effort is *Learning from Experience: Progress in Integrated Coastal Management*, a document being released at CSD IV to highlight the important work being carried out all over the world to promote the protection and sustainable development of coastal and marine resources.

For more than a decade USAID has sustained its commitment to promoting and serving as a catalyst for integrated coastal management (ICM) in developing countries around the world. We have learned that effective ICM does not take hold overnight. If coastal management initiatives are to provide for sustainable development, they must carefully build a foundation that incorporates all stakeholders in a participatory process that can stand the test of time. Public support and tangible results are key.

We at USAID, along with our partners who prepared this report, hope that this concise document successfully illustrates the processes being used to create effective ICM programs and encourages the development and monitoring of innovative ICM programs worldwide. By sharing the lessons that USAID and its many partners have learned through the years, as represented in the case studies included herein, we want to enable ICM planners and managers to learn from the successes - and failures - that our ICM efforts have experienced to date. By sharing this rich experience, we seek to encourage the development and demonstration of new and innovative options for sustainable use of coastal and marine resources.



David Hales
Director, Center for Environment
U.S. Agency for International Development

Manage



INTEGRATED

Coastal

ment

The goal of an Integrated Coastal Management (ICM) program is to promote sustainable development and use of coastal ecosystems through ICM initiatives.

ICM has three fundamental objectives:

- Improve the governance process by providing an equitable, transparent and dynamic governance plan that is supported by and benefits communities and nations.
- Improve the economy, health and social well-being of the people of the area.
- Improve environmental quality to ensure that the ecological and economic diversity and productivity of an area are maintained.

To achieve these objectives, ICM must serve as a means for permanently enhancing the capacity of a society to sustain or improve its quality of life. ICM must work in an integrated manner to address environmental issues, while respecting and embracing social and economic values that are part of a society's fabric. This can be accomplished when ICM programs help create forms of development that are sustainable, that:

- Do not exhaust the resources of the country or locality.
- Create many incomes and chains of enterprise.
- Build indigenous institutions that involve and empower the citizenry.
- Are governed by institutions that nurture an enabling environmental policy, operate with transparency and are held accountable for their actions.
- Promote the equitable allocation of resources and a flow of benefits to the majority.

THE PACE OF PROGRESS QUICKENS

Through USAID's Coastal Resources Management Project, the URI Coastal Resources Center has created a data base of country and regional ICM efforts taking place worldwide that - if continued - can give a current affairs update on coastal management programs.

There has been an explosion of interest and experimentation in ICM in the 1990s. The international commitment to sustainable ICM was given new strength after the United Nations Conference on Environment and Development (known familiarly as the Earth Summit or Rio Conference) and the publication of *Agenda 21* in 1992. More than 178 governments at the Earth Summit adopted, by consensus, the Agenda's program for sustainable development worldwide.

Chapter 17 of *Agenda 21* focuses on coastal ecosystems and the entire marine environment, looking to their protection, rational use and development. Chapter 17 encompasses financing, science and technology, capacity-building, human resource development, management techniques, data and information systems, and international and regional collaboration. It lays out a comprehensive vision of a global movement towards effective and productive use of coastal resources, including living resources management and water pollution control.

The goals, objectives and principles for ICM programs worldwide have since been embraced and forwarded by coastal nations and through supportive activities by the international community.

In the 1990s, national governments are reforming their environmental laws, strengthening their environmental institutions and initiating ICM programs. There are about 217 sovereign and semi-sovereign coastal states in the world. In 1993, 62 of these nations were identified as having ICM projects or programs. The number now is likely double that. Developing countries are allocating scarce national resources and even taking on new debt to ensure these initiatives receive a stable funding base, and move away from reliance on initial donor financial support.

Examples of the ever-widening recognition of the urgent need for ICM are numerous. In 1995, the International Coral Reef Initiative was launched. This major response to *Agenda 21* turned the spotlight on coral reefs as a symbol of what is happening to marine systems throughout the world. ICM, in turn, represents a key strategy for reversing the trends of unsustainable use and degradation that is characterizing many of the globe's prized, but extremely fragile coral reefs.

In late 1995, the Washington Declaration was adopted by representatives of more than 100 participating governments at the Intergovernmental Conference to Adopt a Global Program of Action for Protection of the Marine Environment from Land-Based Activities. The Washington Declaration recognizes ICM as an essential activity to address increasingly urgent and widespread coastal pollution caused by land-based activities.

With *Agenda 21* serving as a springboard for activity on an international basis, the need for ICM that creates indigenous capacity has taken a priority place on the world stage. The experience - both successful and unsuccessful - being gained on virtually a daily basis can provide a foundation for future progress. Learning from this experience is essential if the urgent challenge of providing a sustainable future for coastal peoples is to be met.

THE UNITED STATES' RESPONSE TO THE CHALLENGE

At Home

The United States (U.S.) has been working towards sustainable, integrated management of its coastal areas for over 25 years. As early as 1971, U.S. states such as Rhode Island, California and Washington were working with coastal resource experts and users to create their own management plans. On the national level, the federal Coastal Zone Management Act of 1972 helped drive a concerted effort to control and sustain development along the nation's coast, provide environmental protection for coastal ecosystems and encourage coastal stakeholders to get involved in the process of formulating and implementing ICM plans. In the 1980s, another ambitious initiative was launched, the National Estuaries Program, which promoted an integrated approach to managing some of America's most vital economic and aesthetic resources: its bays, sounds and estuaries. Much experience, both of success and failure, has been gained - experience from which other nations can draw as they move forward.

In Partnership with Other Nations

For more than a decade, the U.S. Agency for International Development (USAID) has been dedicated to assisting developing nations to launch "up and running" coastal management initiatives. The initial strategy was to launch a limited number of ICM pilot projects in Asia and Latin America that "made progress on the ground" and that moved from planning and policy formulation to implementation. Through these pilots - in Ecuador, Sri Lanka, Thailand and a number of other ASEAN nations - principles for developing workable coastal management programs in a wide range of economic, social and political settings began to emerge. These strategies are not, however, a blueprint for ICM in any country.

TEN SUCCESSFUL STRATEGIES FOR INTEGRATED COASTAL MANAGEMENT

USAID, through the Coastal Resources Management Project, implemented by the URI Coastal Resources Center, has identified ICM strategies that have proven to be successful and can be adapted to the unique qualities of different nations and sites.

1. *Recognize that coastal management is essentially an effort in governance. Coastal programs follow a policy process where the challenge lies in developing, implementing and adapting sustainable solutions to resource use problems and conflicts.*
2. Work at both the national and local levels, with strong linkages between levels.
3. *Build programs around issues that have been identified through a participatory process.*
4. Build constituencies that support effective coastal management through public information/awareness programs.
5. *Develop an open, participatory and democratic process, involving all stakeholders in planning and implementation.*
6. Utilize the best available information for planning and decision-making. Good ICM programs understand and address the management implications of scientific knowledge.
7. *Commit to building national capacity through short- and long-term training, learning-by-doing and cultivating host country colleagues who can forge long-term partnerships based on shared values.*
8. Complete the loop between planning and implementation as quickly and frequently as possible, using small projects that demonstrate the effectiveness of innovative policies.
9. *Recognize that programs undergo cycles of development, implementation and refinement, building on prior successes and adapting and expanding to address new or more complex issues.*
10. Set specific targets, and monitor and self-evaluate performance.

ICM - A DYNAMIC PROCESS

ICM is a dynamic process that responds to the unique issues, needs and resources of a community, region and country. Participation by all stakeholders begins with the early identification and prioritization of issues, and extends through planning, policy-shaping, implementation and ongoing evaluation and readjustment of the ICM process.

Involvement of all stakeholders must take place. At the grassroots level, those who live within and rely upon the coastal ecosystem for their livelihoods become *de facto* coastal managers through their daily interactions with their environment. Through collaborative efforts, user group conflicts can be resolved, minimizing impacts on society and the economy, as the case studies reveal. Working together on small projects, or “practical exercises,” community members can experience firsthand the managing-by-doing method that effectively generates a true sense of stewardship for a coastal site.

Participation at the highest government levels, where policies, laws and regulations must be formulated, is also required. Top policymakers must work with local residents and respond to their needs, lending a further sense of empowerment and legal governance authority to community efforts. They must create a national ICM framework to address issues of national concern, that can also balance local and national needs.

Support for ICM initiatives can and should be sought from NGOs. The involvement of NGOs can produce results at the local level and help sway public attitudes in favor of the changing government and personal actions required for effective coastal management. The strength derived from mutual working relationships can bolster the commitment and unity an ICM project needs to sustain itself over time to eventually become institutionalized.

Creating Partnerships

While sustainable development is built upon this sense of ownership and participation, the need exists for local, national and international partnerships that offer shared responsibility for success - or failure. Such partnerships have characterized the relationship between U.S.-based and in-country activities of many kinds. USAID has helped community-based, informal working groups evolve to form the basis for collaborative ICM to address specific issues in a project area. More formalized, interagency partnerships have also been developed for the design and implementation of both national ICM programs and special area management plans.

Sharing the Knowledge

Local, regional and international training has played a vital role in USAID ICM projects, and will continue to do so. Work in ICM field programs is aimed at building an indigenous capacity through a combination of training, sponsored degree education and learning-by-doing. Regional training courses are implemented by partnerships between U.S. institutions and host country universities, which can lead to long-term relationships with university-based coastal management centers, such as the Escuela Superior Politecnica del Litoral (ESPOL) in Ecuador, Silliman University in The Philippines and Prince of Songkla University in Thailand.

As the trained alumni of coastal management courses return to their home countries, they are able to further disseminate ICM concepts and tools. Teachers teaching teachers, which combines collegial learning experiences, shared knowledge and mentoring techniques has greatly boosted the chances for sustained ICM on every continent.

While more and more coastal practitioners join the cycle of learning and teaching others, USAID is busy exploring new ways to expand the reach of coastal management education. "Distance learning" should soon be feasible, whereby audibly- and visually-linked training courses can be conducted, with the trainers in one site and the students thousands of miles away. As more countries gain the capability to link up electronically or via satellite, there will be a quantum leap in the ability to increase human resource capacity.

National and international ICM initiatives are also tapping into the information highway by new, electronic means. Communications and public information strategies, one of the acknowledged effective elements of an ICM initiative, can augment the outreach and dissemination that has previously been done via newsletters, technical reports, print articles and high-quality publications. All printed materials can now be on-line electronically for easy access. World-Wide Web sites can serve as research and reference sources and provide an easily accessed forum for the exchange of views and information.

The extended reach that spans the globe provided by modern technology will be vital in continuing to help ICM practitioners learn from the experience of their colleagues, and facilitate progress.

VERIFYING PERFORMANCE AND RESULTS

As we approach the 21st century, one major trend that has emerged in nearly all significant fields of endeavor is the need to evaluate and assess the results that one achieves versus the stated goals. Finding indicators that can reliably be used to measure performance will be a test for all ICM practitioners.

However valuable the experiences of the past few decades have been, they will mean little if we cannot learn from success and failure, and share methods and processes which can create an effective, valued and valuable ICM program.

A critical component of the evolving practice of ICM is the need for self-assessment, as a part of the overall monitoring of results. By constantly reviewing the state of progress, and drawing from it the "hows" and "whys" of what has taken place, lessons can be learned. Assessing how well - or how poorly - specific actions and strategies worked, and examining why they worked provides information to questions and hypotheses that are being asked and tested elsewhere.

An intensive four-week Summer Institute in Integrated Coastal Management in the United States is hosted by the University of Rhode Island's Coastal Resources Center every two years. To date, over 250 professionals from 50 countries have benefited from these educational opportunities.

Ecuador

Develop an open, participatory and democratic process, involving all stakeholders in planning and implementation.

Public participation, especially of resource user groups, has

proved to be essential in developing countries, even where the legal basis for citizen involvement and a transparent governance process are not strong.

Ecuador's Coastal Resources Management Program (PMRC) was developed through a decade-long initiative of USAID's Coastal Resources Management Program, implemented by the University of Rhode Island's Coastal Resources Center (CRC), in partnership with the country's national government and coastal communities.

Managing traditional user-group conflicts in the coastal areas and gaining public support for sustainable development were the prime objectives for the USAID project. In a climate of increasing poverty and population, combined with decreasing resources, PMRC pioneered a new approach to coastal management. Using a "two-track" approach designed to promote local, grassroots stewardship for coastal man-

agement while working at the national level to generate government support, the PMRC project focused upon five special management areas known as *Zonas Especiales de Manejos*, or ZEMS.

PMRC combined the local knowledge of residents with that of national and international experts to prioritize the issues and problems affecting Ecuador's coast. Inclusive, open ZEM committees and workshops led to the identification of five special management areas, located in all four of Ecuador's continental coastal provinces.

In addition to the "profiling" process for the site-specific issues in each ZEM, the PMRC began grassroots public education efforts aimed to increase par-

ticipation in and build a constituency for coastal planning and management. Between 1987 and 1989, no other project in Ecuador held a wider range and larger number of participatory events than the PMRC did in launching the ZEM initiative. It was this aspect of public involvement, in which local users became *de facto* coastal managers in their own right, that was key to the PMRC's success.

At the same time, within central government, support for the program was sustained through three presidential administrations and created sweeping policy reforms regarding integrated coastal management. In 1989, President Rodrigo Borja signed a decree which formally established the PMRC, set up an Inter-Ministerial National Commission on Coastal Management, created a technical secretariat, set up a two-year deadline for establishing special area management plans and established a locally-oriented inter-agency enforcement group, the Ranger Corps.

Using small, incremental tests of integrated coastal planning, known as "practical exercises," the ZEMs served as proving grounds for management initiatives. These initiatives involved mangrove protection, sanitation, fisheries, conservation education and environmental monitoring. The practical exercises were designed to adapt management measures to the unique needs and resources of each ZEM, while maintaining a consistent approach to sustainable coastal management in each ZEM. The diversity of the participants among user groups, stakeholders and ZEM committee members in each region also enabled the PMRC to reach balanced decisions for coastal management that would benefit and be accepted by all parties.

The combination of technical expertise, strong local stewardship and participation, local and national government support, and effective public education was able to produce benefits by linking short-term economic solutions to the need for long-term resource management. In the San Pedro-Valdivia-Manglaralto

ZEM, PMRC and National Fisheries Institute staff worked with shrimp post-larvae collectors to reduce the damage caused by wasting by-catch, and increase the survival of the post-larvae which are caught. Beginning with a new push net design and a few innovative fishers, the new technique of net construction spread rapidly. The fishers discovered that it protected the larvae they caught, prevented the capture of larvae from unwanted species (making separation simpler and less wasteful), made the net easier to use and less costly to construct. Larvae fishers have since continued to make improvements on the initial design. The project was an example of sustainable development in its most basic form.

Building on the strong foundation of the PMRC's USAID-funded work, in 1994 the Inter-American Development Bank (IDB) entered into an agreement with the government of Ecuador to provide a loan of \$15 million to the PMRC. This five-year loan will be used to fund implementation of programs in the five ZEM's, as well as strengthen enforcement of coastal laws nationwide, and expand the coastal program.

In 1993, the PMRC was chosen to receive Ecuador's national "Blue Planet" award, which honors outstanding environmental leadership. The PMRC was cited for its work in organizing 33 local resource user groups; involving community members in monitoring and enforcement; developing participatory "practical exercises" that reduced water pollution; creating local public education programs; and initiating restoration of mangrove forests. The Blue Planet award is sponsored by Ecuador's Fundacion Natura. The announcement of the award was made on national television, and it included a prize of \$5,000, which was used to support projects in the five ZEM's.

In 1995, USAID and CRC published *Eight Years in Ecuador: The Road to Integrated Coastal Management*, which shares the history and experiences of the project. (Also available in Spanish).





Thailand

Complete the loop
between planning and
implementation as
quickly and frequently
as possible, using
small projects that
demonstrate the
effectiveness of innov-
ative policies and
show a commitment
to act on policy state-
ments and proposals.

In 1986, the government of the Kingdom of Thailand, with USAID assistance provided by the University of Rhode Island's Coastal Resources Center (CRC), initiated a four-year project to develop a strategy for coastal management in Thailand - the Thailand Coastal Resources Management Program (TCRMP).

Thailand was experiencing extraordinary economic growth at the time. In coastal areas, the need for effective integrated resource management was especially urgent. Tourism was booming. Pristine coastal areas were being developed with no regard for the environment - the same environment that drew tourists in the first place. Coastal fisheries were shrinking, mangrove forests were being lost to shrimp farming and other development, and water quality was declining.

Although Thailand did have some environmental laws and a number of sound management plans for specific areas, implementation was sorely lacking. The major barriers, as in many countries, were 1) a lack of political will, largely resulting from the absence of a broad, strong coastal management constituency at both the national and local levels; and 2) a lack of models of places where effective management was occurring.

A multi-agency project team, led by the Thailand Office of the National Environment Board, looked for a few strategic opportunities to build support for improved coastal resource management and to gain credibility through tangible, short-term successes. Protecting and managing coral reefs presented such an opportunity, as Thailand has the third most reef area in southeast Asia, covering an estimated 12,000 square kilometers.

Phuket Island, Thailand's largest island and its premier coastal tourist destination, was chosen as a demonstration site. It was a rapidly growing tourism area, with high visibility within the national government. Its west coast is a string of beautiful pocket beaches separated by dramatic headlands. Reef conditions within the island's bays are poor to fair, while offshore reef conditions are fair to good. Tourism and coastal development were the principal causes of reef degradation.

There were two distinct goals for the Phuket Coral Reef Protection Strategy. The first was to protect and provide for sustainable reef use. The second goal was to use the relatively simple and noncontroversial issues associated with coral reef protection to build local and, later, national support for other coastal management issues such as water quality and land use management.

When the project began, awareness of the existence, beauty and significance of Phuket's coral reefs was limited primarily to scientists. There was no media or public attention paid to coral reefs. Neither the private sector, which was enjoying "free" and very profitable benefits from reefs, nor the government, which was making decisions that affected their condition, considered the impacts of their activities on the condition of the coral reefs.

Using information on the coral reefs gathered over 15 years by the Phuket Marine Laboratory, and with the participation of local divers and fishermen, important management issues were identified in 1986 and 1987. The major causes of reef quality loss were physical damage from recreational activities, siltation from offshore tin mines, and from runoff and coastal erosion due to construction of tourist facilities, as well as nutrient discharges from sewage and runoff.

During the period of issue-identification, an intensive public awareness effort was launched. It featured media campaigns, interpretive signs, community events, information brochures, training programs for tour operators and school programs designed to enhance appreciation of the reefs and explain why a management strategy was needed. Simultaneously, extensive discussions were held with reef-dependent businesses and reef users.

Mooring buoy installation was selected as a highly visible, tangible action that would build linkages among government agencies and between the public and private sectors. Local volunteer divers were given a training workshop, and they helped place 20 permanent mooring buoys to be used by divers and tour operators at Patong and nearby Hae Island, both popular diving and snorkeling sites. This activity not only solved a problem causing reef damage, but also built valuable interagency and public/private sector relationships. By 1989, responsibility for the maintenance of the buoys had been assumed by local groups.

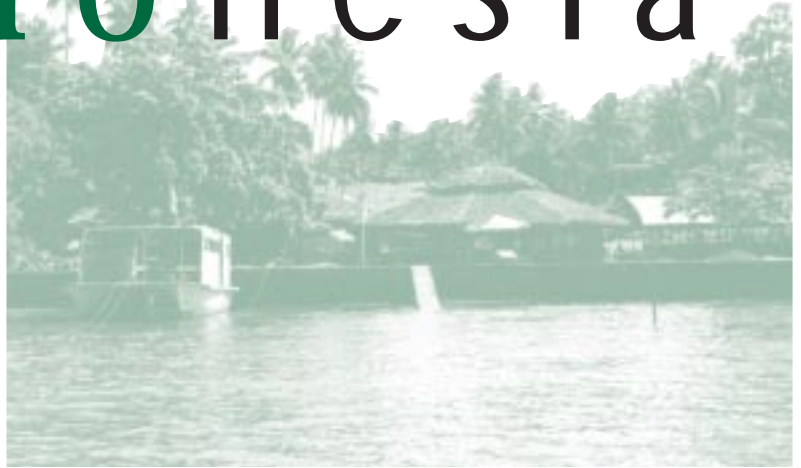
Using existing or new community groups to build a constituency for coastal management was one of the project's priorities. The Phuket demonstration project generated support for a national reef management strategy. The project team's approach of using local demonstration projects linked to national policy reform initiatives worked exceptionally well. The local level provided a testing ground for what types of management initiatives would work in the field and why. It also clearly identified the types of issues that could be addressed only through national policy changes. In doing so, the Phuket demonstration project provided a shared successful experience. Hence, the national policy effort was viewed to be a "winner," and central government agencies wanted to be associated with it.

In October of 1989, a Coral Reef Management workshop was held in Bangkok to share and disseminate the lessons learned in Phuket and in two other demonstration projects in Thailand. The National Coral Reef Strategy was subsequently drafted by the TCRMP with the several agencies responsible for its implementation. Its goal is the optimal multiple use of Thailand's coral reefs for fisheries, tourism, conservation, education, research and other activities.

In July of 1991, at the final workshop of the USAID-sponsored Thailand Coastal Management Project, Thai agencies and the Coastal Provincial Governors endorsed the National Coral Reef Management Strategy. Shortly after, the Royal Thai Government allocated \$2 million for its initial implementation. Since then the Royal Thai Government has continued to invest in further progress - both on coral reef management and local level ICM. Ten years of sustained action could make Thailand a global leader in coral reef and coastal management.



Indonesia



Awareness of the need for improved planning and management of Indonesia's vast marine and coastal resources has expanded rapidly in the past decade. There are now several sectoral, cross-sectoral and industry-based initiatives designed to support national development plans for these areas. However, with a few notable exceptions, they have not yet led to tangible changes in coastal resource allocation or use. Additionally, few of these programs have yet made a significant impact on the lives of coastal community residents who are among the poorest in the country.

USAID Indonesia has developed a second-generation Natural Resources Management II Program (NRM II) that includes a coastal element to address this challenge, the Indonesian Coastal Resources Management Project (CRMP). The CRMP, which commenced in 1997 following extensive consultation with Indonesian partner agencies and stakeholder groups in 1995/96, builds on the invaluable experience of USAID's ongoing Bunaken National Park natural resources management project in the province of North Sulawesi, and seeks to move from a local demonstration to national practice.

In Bunaken, USAID has worked with local partners to develop participatory approaches in marine and coastal resource management that integrate biodiversity conservation with economic development. Accomplishments to date include the development of Indonesia's first management plan for a marine protected area that is built on consensus among a diverse group of stakeholders, which included local residents, tour operators and government authorities.

The neighboring provincial capital, Manado, is the site of the CRMP's field office, which was opened in April of 1997. The field office provides the base for a local team to work with provincial and district officials, as well as directly with communities, on coastal resource use and management at a number of sites in the Minahasa District, outside Bunaken's boundaries. The Indonesian CRMP addresses the difficult question of how best to sustain resource-dependent economic activities, while also protecting biodiversity and coastal ecosystem productivity in areas which are not formally set aside for conservation. Additional field sites will be selected later, however a key measure of the success of the CRMP will be the extent to which the models and practices developed by the CRMP are adopted in other coastal regions of Indonesia.

The broader questions being confronted in North Sulawesi and the answers they produce are salient in Indonesia, which is the world's largest archipelagic nation. Indonesia's land area of 1.9 million square kilometres is divided amongst some 17,500 islands and surrounded by an Exclusive Economic Zone of 5.8 million square kilometres. Various types and levels of integrated coastal management are now underway in many provinces of Indonesia.

While Indonesia has an impressive and extensive series of marine protected areas such as Bunaken, most economic and subsistence activity is concentrated in nearshore areas which are not subject to intensive management and where most users openly compete for access to increasingly scarce resources. This is the case along the open coastline of North Sulawesi. The CRMP's work will incorporate approaches that are employed in the Bunaken project, such as stakeholder participation, the development of local plans and agreements by a variety of coastal resource users, monitoring and extension tools, and the creation of sustainable resource use practices. The coastal management process will also focus on balancing environmental and economic concerns, and building workable, decentralized participatory management models appropriate for Indonesia.

As with other USAID coastal management projects, the CRMP will operate at both the local and national levels and involve both government and non-government stakeholders. This "two-track" approach has the potential to create impacts at a range of scales. It is filling a key niche in the development of Indonesia's in-country coastal resources management capability. Of equal significance, the project will achieve on the ground results, while establishing models and processes with wider application. The design of the program, which draws upon global experience in integrated coastal management, has encouraged Indonesia to "fast track" coastal management systems and skills.

Blending locally defined needs and issues with lessons from global ICM experience, the Indonesian CRMP is based around five core program components: field development programs; strengthening of institutions and human resources; monitoring, learning and policy support; communication, outreach and marketing; and, management and coordination.

The project is being implemented through the Coastal Resources Center of the University of Rhode Island, working closely with local staff; resource users; local, provincial and national authorities; industry; and, community and academic groups. The newly established Centre for Coastal and Marine Resource Studies at Bogor Agricultural University is playing a key role in measuring project impacts and assisting with the transfer of lessons into the policy arena.

The CRMP is committed to achieving results on the ground in the short term, and in the institutions which will carry forward the long-term process of integrated coastal management in Indonesia. By expanding its focus beyond Bunaken's designated conservation area and into the more complex realm of the area's open coastline, and taking on the myriad management problems posed by user conflicts and resource allocation in the area, the project is strategically and tactically positioned to make a significant contribution to development of best practice coastal management. This will, in turn, facilitate sustainable resource use and biodiversity conservation in the "real world" environment of North Sulawesi, and similar sites in Indonesia in the future.

ENCORE

ENVIRONMENTAL AND COASTAL RESOURCES PROJECT (ENCORE)

Commit to building
national capacity
through short- and
long-term training,
learning-by-doing and
cultivating host coun-
try colleagues who
can forge long-term
partnerships based on
shared values.

Through the Environmental and Coastal Resources Project (ENCORE), USAID has been working with public and private-sector groups, non-governmental organizations (NGOs), and local residents in the Eastern Caribbean to demonstrate that biodiversity conservation, coastal zone management and economic development can work hand-in-hand in small island countries.

The project, initiated in 1991, has promoted coastal zone management throughout the region by pursuing two parallel approaches. In one of the approaches, ENCORE has supported activities to strengthen national and regional institutions and policies. This has been accomplished by improving access to environmental information, monitoring and training, and by helping to develop natural resource policies, regulations and guidelines. As the second approach, ENCORE has targeted three sites in St. Lucia and Dominica to couple its national and regional focus with field-based pilot projects in community participation and empowerment. The emphasis locally has been on public education, training and institutional strengthening. These initiatives have been undertaken in cooperation with the Organization of Eastern Caribbean States (OECS) - which includes Antigua and Barbuda, the British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts-Nevis, St. Lucia, and St. Vincent and the Grenadines - the governments of



St. Lucia and Dominica, the Caribbean Environmental Health Institute and World Wildlife Fund-US.

A high priority for ENCORE has been to harmonize national environmental policies among OECS countries. For example, early in project implementation, ENCORE produced a major report for the U.N. Conference on Small Island Developing States which outlined a regional strategy for promoting sustainable development through integrated coastal zone management.

The project has often based its reports, strategies and policy recommendations on findings from technical studies and assessments. An assessment on the state of coral reefs in the Eastern Caribbean, for instance, found that because OECS countries are ecologically linked by ocean currents and their close proximities, stresses to their coral reefs - soil and nutrient runoff, overfishing and harmful diving practices - can only be ameliorated through collective action. This conclusion resulted in greater impetus to develop a regional coastal zone management strategy and in the development of environmental guidelines that have been adopted regionally. These guidelines include requirements for assessing the impacts of agriculture on coastal resources, and more recently, for conducting rapid environmental impact assessments in coastal areas. To ensure that member countries have the technical and administrative capability to carry out these kinds of guidelines and strategies, ENCORE has sponsored training courses for more than 700 government personnel, NGOs and community members.

One of ENCORE's major achievements has been to play an instrumental role in crafting the Coastal Resources Management Initiative (CRMI), a new OECS program which coordinates coastal and marine resource policies and programs among member states. ENCORE worked with a broad cross-section of people to identify major issues of concern in the coastal and marine environments. Consensus emerged that the chief problem was pollution, followed closely by sand mining along beaches, shoreline erosion and overfishing.

These findings were later presented at a regional workshop, organized with project support, which found common ground among 60 representatives from government, NGOs and regional development banks on several environmental issues. Most notably, participants agreed to work together on a single strategy to promote integrated coastal zone management throughout the Eastern Caribbean. The strategy has since been used to solicit funds from the Overseas Development Agency, Inter-American Development Bank and other potential donors.

In addition to ENCORE's national and regional activities, the project also has made considerable progress at its three demonstration sites. Through more than 20 small field projects, ENCORE has shown that communities and governments can work in partnership to manage their coastal and marine resources. A major goal has been to raise community awareness about the importance and fragility of the coastal environment and to empower them to use these resources sustainably.

ENCORE's small community initiatives have targeted several sectors. To conserve biodiversity, the project team and residents of Soufriere, St. Lucia became involved in a long and creative process of consultation that resulted in formal agreement between fishing groups, hotel owners, divers, government agencies and community groups to establish the Soufriere

Marine Management Area. The area, now demarcated with assistance from ENCORE and the community, protects an 11-kilometer stretch of coral reef, open water and beachfront.

Other small projects have been geared toward managing natural resources more judiciously. For example, communities in Dominica have learned to use pumice instead of beach sand for local construction. The results are impressive. On Purple Turtle Beach, the once-common practice of sand mining has stopped completely. A watchdog group set up by local residents to monitor the beach has now disbanded because it is no longer needed. Another small project helped initiate a community-run solid waste disposal program to prevent garbage from being dumped indiscriminately into rivers. ENCORE operated at two levels. First, it worked with residents to encourage them to dispose of their wastes into dumpsters that the project has constructed locally. It also collaborated with the central government to ensure that garbage was picked up regularly and disposed of properly in landfills.

ENCORE's impact has now extended beyond the three local project sites to the British Virgin Islands, where the Overseas Development Agency and World Wildlife Fund-UK are using the project as a model for a similar coastal endeavor. In the coming months, ENCORE will direct its efforts toward ensuring the sustainability of its activities after the project concludes in 1997. It plans to participate in negotiations with international donors to fund components of the CRMI. ENCORE also will help lay the groundwork for one CRMI component currently under proposal with the Overseas Development Agency to hire a coastal resource management specialist, who will work with communities to identify and implement small environmental projects. These small projects will be financed under a special grant fund.



Sri Lanka

Recognize that programs undergo cycles of development, implementation and refinement, building on prior successes and adapting and expanding to address new or more complex issues.

No developing nation has a longer history of national coastal management than Sri Lanka. Building on a number of studies and reports in the early 1960s, Sri Lanka established a Coast Conservation Division (later Department) (CCD) in 1978, and enacted a Coast Conservation Act in 1981. The Act required the CCD to prepare a coastal management plan within three years, and stipulated that all development activities in the coastal zone be subject to permit review by the CCD. Since then, this program has since evolved and grown, and today is one of the most robust ICM programs in Asia.

Since January of 1986, USAID, through the University of Rhode Island's Coastal Resources Center (CRC), has worked with CCD to strengthen its program. Gradually delegating authority to local levels of government and creating a strong public education and constituency-building initiative were seen as core goals of the Coastal Resources Management Program (CRMP)/CCD partnership. Five primary objectives were set forth by the partnership:

- 1) Assist in the preparation of a Coastal Zone Management Plan (CZMP) consistent with CCD's legislative mandate. An initial plan was prepared



and adopted in 1991, and a second generation revised and expanded plan is likely to be adopted in 1996.

- 2) Assist in developing additional techniques to effectively implement the CZMP.
- 3) Enhance local capacity in planning for and managing coastal resources for sustainable use.
- 4) Increase awareness among the Sri Lankan population of the value of coastal resources and the need to manage them.
- 5) Enhance the capacity of CCD for ICM.

The initial CZMP focused on four key issues in a narrowly defined coastal strip: shorefront development, coastal erosion, habitat loss and the decline of recreational and cultural sites. A key element of the CZMP was a national permitting program which required construction setbacks within the 300-meter coastal zone, which was suffering from rapid development and coastal erosion. The permit system became an effective and controversial tool for achieving the program's limited management goals. The enforcement of the coastal setback provision was criticized by the tourist industry. In response, CCD held an open forum and workshop that brought together government officials and the private sector to review the

regulations. The resulting compromises were incorporated into the revised CZMP. Working with industry was the everyday management approach. Rather than taking a heavy-handed approach to enforcement and permitting, CCD's regulatory programs involve strong public education campaigns, and CCD staff take pains to work personally with applicants to properly guide their proposals.

In 1991, after the CZMP had been formally adopted by the Sri Lankan Cabinet, CCD staff began to consider a broader and more integrated approach to coastal management. The result was a strategic plan called *Coastal 2000: Recommendations for a Resource Management Strategy for Sri Lanka's Coastal Region*. *Coastal 2000* recommends a second generation coastal resources management program which employs a "two-track" approach, in which plans are implemented simultaneously at both the national and local levels.

The local track of the Coastal 2000 strategy includes the designation of special management areas in which residents are actively involved in both the design and implementation of a special area management plan (SAMP). In these selected sites, methodologies in the sustainable use of coastal resources can be tested at the grassroots level. By the end of 1992, two sites were chosen. One was Hikkaduwa, a small town on the west coast, known for its coastal tourism and marine sanctuary. The other was Rekawa Lagoon, important for its local fisheries, mangroves, beaches and agriculture.

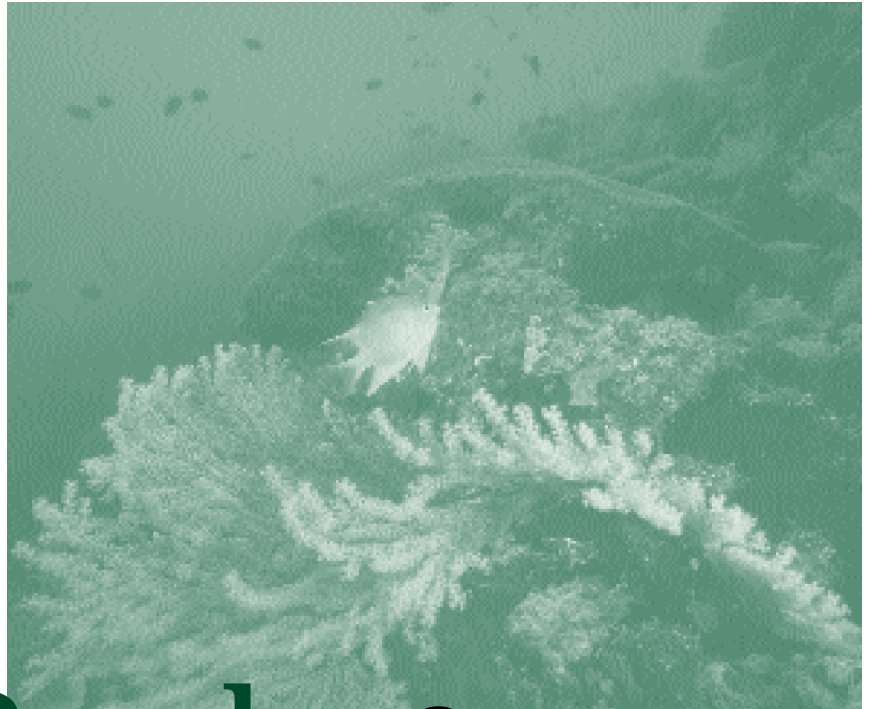
The SAMP process at Hikkaduwa has facilitated the effective management of the Hikkaduwa Marine Sanctuary and Harbor, heightened awareness amongst tourists and residents of the need to protect and manage the coastal environment, and initiated a waste management and a glass-bottom boat owner association, among others. In management of Rekawa Lagoon habitat, fishery and livelihood issues have taken highest priority. Introducing ecotourism to the area and pro-

viding alternate livelihood opportunities (for example, former coral miners are now involved in poultry farming) are two of the many SAMP initiatives.

SAM plan implementation actions are rapidly increasing, and stakeholders who witness the progress these plans have achieved, become more committed to further action. A mechanism is developing that is necessary to sustain the SAM process. Local governments, communities, businesses and NGOs are for the first time collaborating - through the locally-based SAM Coordinating Committee - to define resource management objectives and strategies, then assisting in carrying them out.

The lessons learned through the SAMPs will be used to aid coastal management planning throughout Sri Lanka. To date, the major achievements of the Sri Lankan CRMP have been the development of a framework, national regulatory plan for coastal management; the decentralization of authority to Districts, so that minor permits can be acted on at the local level and do not have to involve central government; and the initiation of SAM planning necessary for forward-looking, progressive ICM to occur. All this has been achieved through two changes of government leadership, with progress being sustained as a second generation of coastal managers - trained during the 10 years of the CRMP - made a smooth transition into leadership roles.





Red Sea

Recognize that coastal management is essentially an effort in governance.

Coastal programs follow a policy process where the challenge lies in developing and implementing sustainable solutions to resource use problems and conflicts.

RED SEA MARINE PEACE PARK

The historic peace treaty between Jordan and Israel has created new opportunities for regional cooperation to protect the rich underwater diversity of the

Gulf of Aqaba-Eilat in the upper Red Sea. Ironically, it also has introduced the potential for new environmental pressures from tourism and urbanization, which, if not mitigated, could undermine the fragile ecosystem and economic base of the region. With this understanding, the Government of Jordan requested assistance from USAID in 1994 to help the country manage its coastal waters and coral reefs in a sustainable way. Since then, USAID has played a major role in establishing the Red Sea Marine Peace Park, with technical support from the National Oceanic and Atmospheric Administration (NOAA) under an existing interagency agreement.

A number of imminent threats to the coral reefs of the upper Red Sea has generated a sense of urgency to establish the protected area. Over the last 20 years, the Gulf of Aqaba-Eilat has experienced explosive urban growth and tourism development, encouraged by the gulf's deep ports, warm climates, pristine beaches and spectacular coral reefs. Economic and urban growth, however, have produced a number of environmental costs. In Jordan, nearly 30 percent of Aqaba's beaches and sections of coral reefs have been modified to accommodate port and urban needs. In Israel, pressure from 60,000 divers a year who converge along a one-mile stretch of coral reef south of Eilat has degraded the habitat.

Peace and prosperity are expected to lead to even more urbanization and tourism. Developers have opened discussions with the Aqaba Regional Authority to explore the possibility of building major resorts along the beachfront. While a master development plan exists for the area, Jordan lacks the technical capability and facilities to manage its coral reefs and to mitigate potential threats to them. The country realizes that a decline in environmental quality and deterioration of the reefs could jeopardize Aqaba's economic well-being.

To address these concerns, the U.S. has supported a number of initiatives in the region. One of its first activities was to provide technical assistance to the Government of Jordan to draft a concept paper that proposed establishing the binational peace park between Israel and Jordan. Recommendations from the paper, which were adopted by both Jordan and Israel during their October 1994 peace talks, called for creating a park in Jordan that encompassed 7.5 kilometers of beachfront and coral reef. The paper also outlined four major areas for Jordanian-Israeli cooperation: research in marine science and biology, environmental monitoring, exchange of environmental data and staff training in coral reef management.

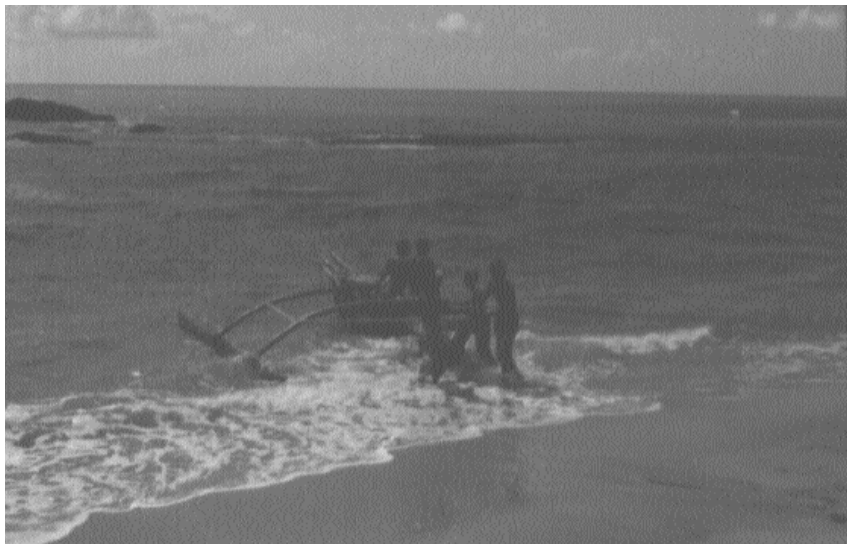
Since then, USAID, NOAA, and the U.S. State Department have supported several more activities. To protect the coral reefs from boat and anchor damage, the State Department provided a grant to purchase mooring buoys and equipment. Experts from the Florida Keys National Marine Sanctuary flew to Jordan to train six local personnel in installing the buoys.

To generate greater awareness among Jordanians about the park, a public awareness program was launched that included the distribution of a scenic poster of the park. In addition, EcoPeace, a regional environmental non-governmental organization made up of Egyptians, Israelis, Jordanians and Palestinians, received financial support for the Gulf of Aqaba's first beach clean-up, held in September 1995. An historic event, the clean-up marked the first time that the people and particularly the children of Egypt, Jordan and Israel joined together on one weekend to acknowledge their shared responsibilities toward their common coastlines.

The Government of Jordan will soon build on these initiatives and establish basic infrastructure and personnel for the peace park. USAID and its partners will continue their involvement as well. Additional financial assistance is contemplated through USAID's Middle East Regional Cooperation Program to Jordan, Israel and potentially Saudi Arabia and Egypt for collaborative work associated with the peace park. In 1996, NOAA will help draft a management plan and park regulations, initiate an environmental monitoring program, and train personnel once they are hired.

Kenya & Zanzibar

Few successes in natural resource management at the national level exist on which to build. In small-scale, local-level sites it is easier to find out what works, what doesn't work, and why.



In 1994, under the auspices of the U.N. Environment Programme's Eastern Africa Regional Seas Programme, USAID's Regional Economic Services Office for East and Southern Africa (REDSO-ESA) and the Coastal Resources Management Project (CRMP) began a collaborative effort to demonstrate how to formulate effective, participatory approaches and strategies for addressing ICM problems in East Africa.

The USAID-sponsored work, implemented by the URI Coastal Resources Center (CRC), focused on two coastal management demonstration sites: the Nyali-Bamburi-Shanzu area in the urbanized district of Mombasa, Kenya; and Chwaka Bay-Paje, Zanzibar, a relatively undeveloped area where traditional villages are rapidly being transformed by tourism.

In both countries, multi-agency planning teams were formed to carry out a highly participatory ICM strategy preparation process. In Kenya the lead agency is the Coast Development Authority; in Zanzibar, the Department of Environment. This process culminated in national workshops attended by a wide range of national and local stakeholders where the preliminary ICM strategies were endorsed, and locally-based Coastal Management Committees formed to oversee further development and implementation of the ICM strategies.

In Kenya's Nyali-Bamburi Shanzu site, urbanization and its attendant problems are the major issues. Traditionally, the area's economy depended on fisheries and mangrove forests. The fishing villages were located on the sea shore and in the mangrove areas. Today, these traditional economic sectors have been overshadowed by tourism, residential and commercial development and industry. The coastal waters off Bamburi are part of the Mombasa Marine Park and Reserve. The demands of rapid growth have put intolerable burdens on the local infrastructure and public services. The pressures on the system have resulted in degraded water quality, declining fisheries, loss of public access to the shore, increased erosion and ever-increasing user conflicts. There is concern that together these factors are resulting in a slowing of the tourism industry.

In Chwaka Bay-Paje, the major issues are maintaining the coastal resource base on which the economy depends; sustaining and enhancing village economies; and mitigating the impacts of the tourism industry. The Chwaka Bay-Paje site encompasses seven local villages in an area with critical coastal habitats including mangroves, seagrass beds, coral reefs, beaches, water resources and cultural areas. Artisanal fisheries are under increasing pressure; seaweed farming is a new and significant source of income for village women, but it is unmanaged and unprotected. Mangrove harvest now exceeds sustainable levels, and the current management regime has become unwork-

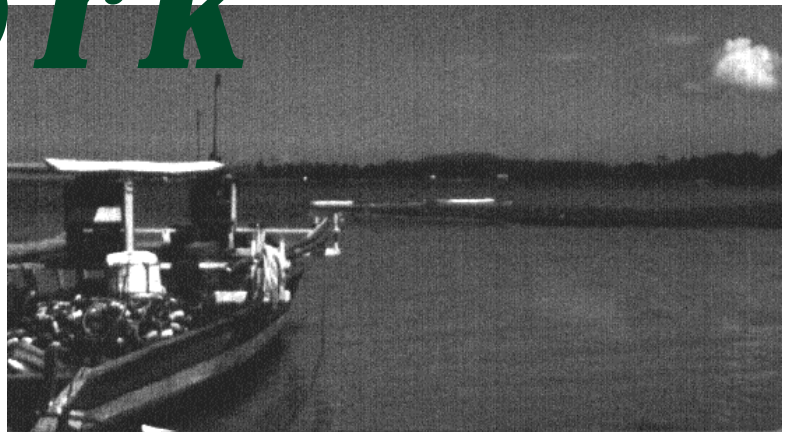
able. Tourism is entering this site, and village residents are not yet full partners in determining where and how this new, potentially positive development should occur.

Through this initial, short-term project, a number of important results have been achieved. At both sites, indigenous, multi-disciplinary, multi-agency professional teams have been established and strengthened through training and learning-by-doing in partnership with the CRC ICM practitioners. Second, there is now consensus about what the salient ICM issues are and a constituency - both at local and national levels - that is supportive of the action strategy. Finally, there is a consensus document that defines an integrated strategy for moving forward to address problems at both sites. Both strategies include immediate actions to begin to address some of the most urgent issues and further build support for ICM, as well as more detailed planning and policy development so that long-term sustainable solutions to problems are put in place.

From a regional perspective, UNEP and USAID/ REDSO-ESA have made good progress towards building a community of ICM practitioners through exchanges between the demonstration sites and other nations within the East Africa Regional Seas Programme.



Biodiversity Conservation Network



The Biodiversity Conservation Network (BCN), a six-and-half year initiative launched in 1992 by USAID, provides grants and technical assistance to establish community-based businesses in Asia and the Pacific whose success depends directly on the sustainable use of biological resources. To date, BCN has provided 34 grants to local non-governmental organizations (NGOs) to finance feasibility studies that examine the commercial potential of proposed ventures. By early 1996, 20 projects had received three-year "implementation" grants to establish or strengthen promising enterprises. Implemented by a consortium of World Wildlife Fund, The Nature Conservancy (TNC) and World Resources Institute, BCN has worked with NGOs in 10 countries.

Monitoring progress and performance is a key aspect of BCN, since each enterprise is viewed as a potential model for replication elsewhere. On average, 32 percent of each implementation grant is allocated for

monitoring the social, economic and environmental impacts of the business to determine whether ventures are successful. By analyzing the data and disseminating the findings, BCN hopes to promote similar private sector approaches to conservation in other developing countries.

Although most of BCN's efforts target terrestrial ecosystems, businesses in the Solomon Islands and Indonesia focus on linking marine conservation with compatible rural development, including sustainable fisheries, protected areas management and eco-tourism. Underlying these efforts is the assumption that, when local people are encouraged to capture sustained economic and social benefits from the use of marine resources, they become more effective stewards of these resources and advocates for conservation.

Solomon Islands

The Arnavon Islands, located in the nation of the Solomon Islands, support an impressive diversity of marine resources, including key species of commercial and subsistence value for local communities. Fishermen from neighboring islands make regular visits to the area to harvest shellfish, pearl oysters, giant clams and other commercial species. The Islands also are home to the most important rookery in the western Pacific for the endangered Hawksbill turtle.

In the past 15 years, however, increasing population pressures and a sharp rise in the market value of some marine products have stimulated exploitation beyond sustainable levels, severely depleting once-abundant fisheries. As a result, local communities and government fear an important economic resource may be lost.

In response to this concern, TNC, supported by BCN, has helped establish the Arnavon Islands Community Marine Conservation Area, the country's first such area to be managed cooperatively by fishing communities and the government. The area protects the Hawksbill turtle and rehabilitates key marine resources. BCN also has helped finance the development of a management plan for the protected area and currently supports six conservation officers.

This year, TNC and its partners launched a model fisheries enterprise that aims to provide local fishermen an alternative to their current fisheries activities, which no longer provide them adequate livelihoods. The enterprise targets the plentiful, yet underexploited, deepwater finfish resources, primarily snapper. By providing a viable marine-based source of income, BCN expects TNC to determine whether pressure on depleted and vulnerable marine species is reduced.

The enterprise will train and equip fishing groups and provide cold storage to maintain product quality. It also will coordinate the transportation and sale of fish to both regional and overseas markets. Once fully operational, the enterprise will sell about 145 tons

annually, mostly to international markets, and bring in foreign currency to this resource-poor country. In 1997, when the project is scheduled to end, local partners will assume full responsibility for the enterprise, and TNC's management role will gradually be phased out.

Indonesia

Eastern Indonesia, which supports some of the world's most biologically diverse marine sites, harbors some 95 coral and 155 fish species. To reduce pressure in sensitive areas, two Indonesian NGOs, with BCN support, are preparing to launch a marine-based enterprise that aims to find alternatives to destructive fishing techniques, such as the use of cyanide and explosives.

The Rumsram Foundation and the Hualopu Foundation have laid the groundwork for the enterprise by examining the feasibility of working locally to establish a community-based marine ecotourism venture in the Padaido Islands and introducing sound methods of capturing marine resources.

The Rumsram Foundation already has built bungalows for tourists and established a credit mechanism for the local community. As a next step, the foundation is creating a community-owned and -operated travel agency that will offer tourists dive packages; these will serve as less expensive alternatives to the packages now offered by large tour operators, which rarely hire local people. Rumsram will provide community financing and training in business management and sustainable fisheries harvesting. Once the enterprise is up and running, Rumsram, with Hualopu's technical expertise, will monitor activities to determine how local people benefit economically and environmentally.

Moving Towards *Sustainable* *Development*

Real change is real hard and takes real time. It is imperative that time be taken to thoroughly analyze the methodologies of ICM as it is practiced in the real world, and examine the results of those endeavors over a period of days, months, years and even decades. Only by beginning to build a body of experience from which we can draw knowledge will ICM programs have an opportunity to learn.

USAID is dedicated to continuing its progress towards sustainable ICM, drawing upon the lessons learned over time. The organization will maintain an international leadership role in providing assistance to partners to both make progress on the ground and further the development of ICM concepts and tools. Building human capacity for ICM from the university to grass-roots levels will continue to be a hallmark of USAID

programs, and every effort will be made to institutionalize ICM study as a professional career path with university curricula. USAID will continue to encourage sharing and dissemination of ICM knowledge and information, from hands-on workshops to the World-Wide Web. Finally, USAID will encourage more and stronger partnerships between funders, scientists, user groups, governments, stakeholders and peoples of the coast everywhere.

By learning from experience, we have a very good chance to see successful and sustainable ICM programs become a reality in the near future.

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